

1 WHAT IS CLAIMED IS:

5 sub a3 > 1. A method of automatic statistics generation and management, comprising:  
2 receiving input data of a sporting event;  
3 generating semantic information and geometric model information based on  
4 the input data; and  
5 generating sporting statistics based on at least one of the semantic information  
6 and the geometric information.

Sub b1 > 2. The method according to claim 1, further including storing the sporting statistics.

Sub b2 > 3. The method according to claim 1, further including analyzing the sporting  
statistics.

Sub a4 > 4. The method according to claim 1, further including providing the input data from  
at least one video camera located at the sporting event.

Sub b1 > 5. The method according to claim 1, further including receiving a query for the  
sporting statistics.

Sub a5 > 6. The method according to claim 1, further including:  
2 processing the input data to generate tracking information; and  
3 processing the tracking information to generate the semantic information and  
4 the geometric information.

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1 7. The method according to claim 1, further including analyzing the sporting statistics to discover patterns and predict future trends.

1 8. The method according to claim 1, wherein the input data is video.

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1 9. The method according to claim 1, wherein the input data is from a radio frequency (RF) beacon.

1 10. The method according to claim 1, wherein the input data is textual information.

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1 11. An automatic statistics generation and management system, comprising:  
2 a head-end system to receive input data of a sporting event and to generate  
3 semantic information and geometric information;  
4 a statistics generation system to generate sporting statistics based on at least one  
5 of the semantic information and the geometric information received from the head-end  
6 system; and  
7 a statistics management system to store and manage the sporting statistics  
8 received from the statistics generation system.

1 12. The system according to claim 11, further including at least one video camera,  
2 located at the sporting event, to provide the input data to the head-end system.

1           13. The system according to claim 11, further including a gateway connected to the  
2 statistics management system to support query applications from a user interface.

*Sub 1 a7 >*

1           14. The system according to claim 11, wherein the head-end system includes:  
2                 a tracking system to receive and process the input data to generate tracking  
3                 information; and  
4                 a production system to receive and process the tracking information to generate  
5                 the semantic information and the geometric information.

*Sub 1 b2 >*

1           15. The system according to claim 11, wherein the statistics generation system  
2             includes:  
3                 a model manager to access the semantic information and the geometric  
4                 information; and  
5                 a statistics generator to receive and process at least one of the semantic and  
6                 geometric information from the model manager to generate the sporting statistics.

1           16. The system according to claim 11, wherein the statistics management system  
2             includes:  
3                 a statistics database to store and manage the sporting statistics; and  
4                 a data miner to extract and analyze the sporting statistics stored in the statistics  
5                 database.

1        17. The system according to claim 16, wherein the data miner analyzes the sporting  
2 statistics to discover patterns and predict future trends.

1        18. The system according to claim 11, wherein the semantic information is an  
2 Extended Markup Language (XML) file.

1        19. The system according to claim 11, wherein the sporting statistics are saved in a  
2 predefined Extended Markup Language (XML) schema.

1        20. The system according to claim 11, wherein the input data is video.

1        21. The system according to claim 11, wherein the input data is from a radio  
frequency (RF) beacon.

1        22. The system according to claim 11, wherein the input data is textual information.

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2        a8      23. An automatic statistics generation and management system, comprising:  
3                  a head-end system including a tracking system to receive and process input data  
4                  of a sporting event to generate tracking information, and a production system to receive  
5                  and process the tracking information to generate semantic information and geometric  
6                  information;  
7                  a statistics generation system including a model manager to receive and access the  
semantic information and the geometric information, and a statistics generator to receive

8 and process at least one of the semantic information and the geometric information to  
9 generate sporting statistics; and  
10 a statistics management system having a statistics database to store and manage  
11 the sporting statistics, and a data miner to extract and analyze the sporting statistics stored  
12 in the statistics database.

1 24. The system according to claim 23, further including at least one video camera,  
2 located at the sporting event, to provide the input data to the head-end system.

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*Subj B2*  
25. The system according to claim 23, further including a gateway connected to the  
statistics management system to support query applications from a user interface.

*Subj B1*  
*Subj B2*  
26. The system according to claim 23, wherein the data miner analyzes the sporting  
statistics to discover patterns and predict future trends.

*Subj B1*  
*Subj B2*  
27. The system according to claim 23, wherein the input data is video.

*Subj B1*  
*Subj B2*  
28. The system according to claim 23, wherein the input data is from a radio  
frequency (RF) beacon.

*Subj B1*  
*Subj B2*  
29. The system according to claim 23, wherein the input data is textual information.

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30. The system according to claim 23, wherein the sporting statistics are saved in a predefined Extended Markup Language (XML) schema.

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